

Costs of Institutional Controls

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Introduction

- Definition:
 - ICs are defined as any mechanism(s) used to restrict inappropriate uses of land, facilities, and environmental media by limiting exposure to residual contamination
 - Per DOE Policy and Guidance, ICs are defined as administrative and legal controls, physical barriers and markers, and informational sources to inform current and future generations of hazards that exist



Hope to accomplish

- Give a classification for costs, and some measures of what they have been
- Give some specific examples of costs for ICs at LM sites
- Will not be statistically valid, but hope to be predictive



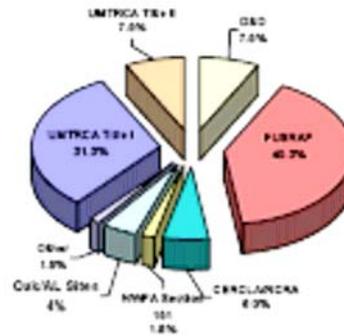
Overview

- ICs to be protective of human health and the environment
- For disposal sites, keep site safe.
- Maintain the remedy
- Prevent inappropriate use and eliminate exposure

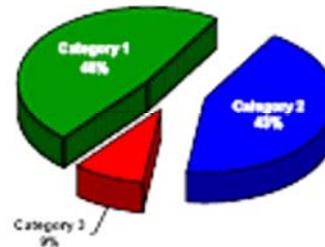


Types of sites

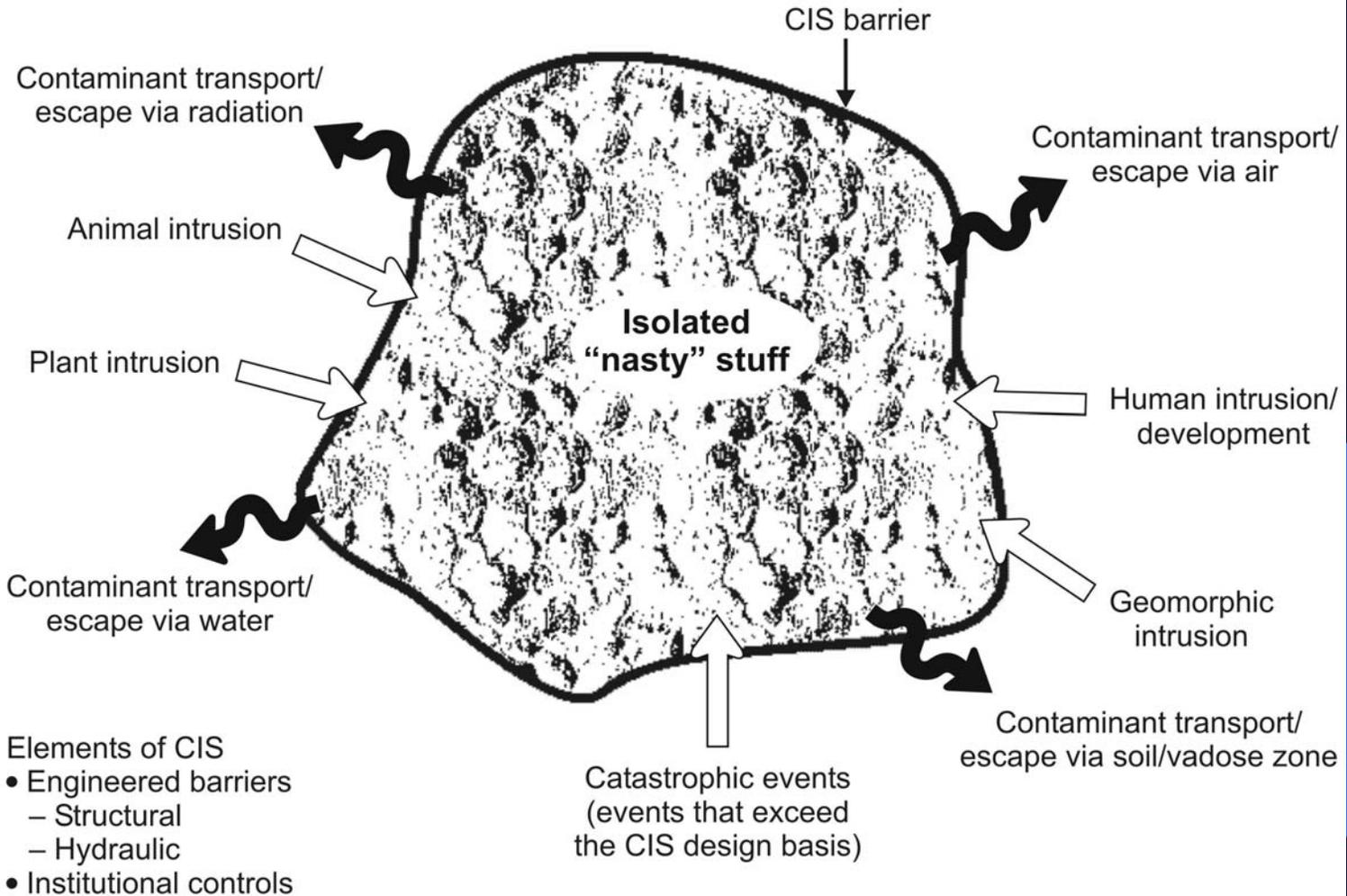
Type	Actual 2005
UMTRCA Title I	21
UMTRCA Title II	5
DSD	5
FUSRAP	27
CERCLA/RCRA	4
NWPA Section 151	1
Oak/MAL Sites	3
Other	1
Total	67



FY05 Sites by Category	
Category 1	32
Category 2	29
Category 3	6
Total	67



Generic Contaminant Isolation System (CIS)



Classification of costs

- Setup
- Maintenance and Enforcement
- Reporting
- Cost of Failure



Setup Costs

- Can be almost anything
 - Have to determine what needs to be restricted and what mechanism will accomplish needed restrictions.
 - Easements/access can range from \$50/ year to \$250K one time cost
 - Purchase property at going rate and can be \$200/acre to \$20,000/acre or more
 - Zone changes often done by locals at no cost to DOE



Maintenance/Enforcement Costs

- Repair and replacement of engineered ICs and signs
- Could be continued costs for easements
- Cost of periodic inspections not driven by size of site, but by having at least two inspectors for H&S concerns
 - especially for remote sites
- Cost of dealing with those (human or animal) who violate restrictions





Replacing fence material



Markers



Reporting Costs

- Can be lots or little
- Not correlated to volume of info or to “to who”
- Web costs are less than paper requests for anything greater than 2 requests
- Most reporting costs are amortized over public information/outreach as well (Report to regulator is the report to public)



Cost of Failure

- Failure \neq Harm
- Cost occurs mostly by losing trust
- What does lost trust cost remediation and DOE?



REUSE

The Mound Advanced Technology Center (MATC) is a business and scientific technology park at the Mound Site.



Costs - Set up

- Depends if DOE owns property or not
- Depends on where the property is
- \$200- \$42,000 for rights or access per site
- DOE is moving to perpetual easements
- Costs could be high to replace a restricted resource, such as ground water



Costs - Maintenance/Enforcement

- \$200 to \$100,000 for inspections, monitoring
- Eyeball checks to courthouse visits and electronic database reviews
- For “pure” IC- probably never more than \$10,000
- No history of enforcement costs except as relates to maintaining engineered ICs



Reporting

- Reporting includes all information dissemination
- Web publishing – least expensive and most accessible form of communication
- Pure reporting on ICs is \$2000 to \$18,000



Urban Site ICs



Example costs for urban site

• Setup	\$	60,000
• Maintenance/enf	\$	23,400
• Reporting	\$	20,300



Another Example

• Setup	\$ 13,000
• Capital Cost	\$1,000,000
• Maintenance/Monitoring	\$ 8,000
• Reporting	\$ 2,000
• Enforcement	\$?



Summary

- LM has wide range of sites, site locations, and restrictions required
- Size, location and legal drivers seem to help little to predict costs
- Allowing as many beneficial land uses as possible increases the number of ICs and the costs
- Inspections, reviewing permit applications is equal in cost to reporting



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